

NAME P/N QTY	CRIT	FAILURE MODE & CAUSES	FAILURE EFFECT	RATIONALE FOR ACCEPTANCE
TEMPERATURE SENSOR, SUBLIMATOR OUTLET, ITEM 139 ----- SV792503-1 (1)	2/2	139FM05 External water leakage.  Seal failure of connector bracket/ blockoff plate on valve module.	END ITEM: Water leakage to ambient.  GFE INTERFACE: Depletion of the water reservoir.  MISSION: Loss of use of one EMU.  CREW/VEHICLE: None.  TIME TO EFFECT /ACTIONS: Minutes.  TIME AVAILABLE: Minutes.  TIME REQUIRED: Seconds.  REDUNDANCY SCREENS: A-N/A B-N/A C-N/A	A. Design - External leakage is prevented by a face type o-ring seal. The seal consists of an elastomer (viton) compressed between smooth parallel surfaces and restrained from extrusion.  B. Test - Vendor Acceptance Test (RFD Corp., Hudson NH) in accordance with SVHS10118, rev. B, paragraph 4.2.4.  PDA Test - Combined circuit water leakage test is performed per SEMU-60-010 at 15.7 - 15.9 psig for a 60 minute duration. The leakage shall not exceed 6 cc/hr.  Certification Test - Certified for a useful life of 20 years (ref. EMUM-1269).  C. Inspection - O-ring grooves are 100% inspected per drawing dimensions and surface finish. O-rings are inspected for surface characteristics per SVHS 3432; 100% for Class I & II O rings, and at least 2.5 AQL and 2.5 AQL for Class III.  D. Failure History - None.  E. Ground Turnaround - Tested for non-EET processing per FEMU-R-001, Water Servicing, Leakage and Gas Removal. None for EET processing.  F. Operational Use - Crew Response - When CWS data confirms depletion of primary water tanks, terminate EVA. Training - Standard EMU training covers this failure mode. Operational Considerations - Flight rules define go/no go criteria related to EMU thermal control. Flight rules define EMU go to remain on SCU (available for rescue if required). EVA checklist procedures verify hardware integrity and operational status prior to EVA. Real Time Data System allows ground monitoring of EMU systems.

EXTRAVEHICULAR MOBILITY UNIT  
SYSTEMS SAFETY REVIEW PANEL REVIEW  
FOR THE  
I-139 SUBLIMATOR TEMPERATURE SENSOR HARNESS  
CRITICAL ITEM LIST (CIL)

EMU CONTRACT NO. NAS 9-97150

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